

APPLICANT FACSIMILE OF FORM PTO-1449

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Jesper Z. Haeggström et al.

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO

OTHERS (including Author, Title, Date, Pertinent Pages, Etc.)

MAT	A1	Andberg, M. et al. "Mutation of tyrosine 383 in leukotriene A ₄ hydrolase allows conversion of leukotriene A ₄ into 5S,6S-dihydroxy-7,9-trans-11,14-cis-eicosatetraenoic acid. Implications for the epoxide hydrolase mechanism," <i>J. Biol. Chem.</i> 1997 Sep 12;272(37):23057-63
	A2	Barrett, A.J. et al. Eds. "336. Introduction: family M1 of membrane alanyl aminopeptidase," in <i>Handbook of proteolytic enzymes</i> 1998 Oct; pp. 994-996
	A3	Blomster, M. et al. "Evidence for a catalytic role of tyrosine 383 in the peptidase reaction of leukotriene A ₄ hydrolase," <i>Eur. J. Biochem.</i> 1995 Aug 1;231(3):528-34
	A4	Byrum, R.S. et al. "Determination of the contribution of cysteinyl leukotrienes and leukotriene B ₄ in acute inflammatory responses using 5-lipoxygenase- and leukotriene A ₄ hydrolase-deficient mice," <i>J. Immunol.</i> 1999 Dec 15;163(12):6810-9
	A5	Chen, X.-S. et al. "Role of leukotrienes revealed by targeted disruption of the 5-lipoxygenase gene," <i>Nature</i> 1994 Nov;372:179-182
	A6	Crameri, A. et al. "DNA shuffling of a family of genes from diverse species accelerates directed evolution," <i>Nature</i> 1998 Jan 15;391(6664):288-91
	A7	Devchand, P.R. et al. "The PPARalpha-leukotriene B ₄ pathway to inflammation control," <i>Nature</i> 1996 Nov 7;384(6604):39-43
	A8	Dittmann, K.H. et al. "MK-886, a leukotriene biosynthesis inhibitor, induces antiproliferative effects and apoptosis in HL-60 cells," <i>Leuk. Res.</i> 1998 Jan;22(1):49-53
	A9	Drazen, J.M. et al. "Treatment of asthma with drugs modifying the leukotriene pathway," <i>N. Engl. J. Med.</i> 1999 Jan 21;340(3):197-206
	A10	Evans, J.F. "Leukotriene A ₃ . A poor substrate but a potent inhibitor of rat and human neutrophil leukotriene A ₄ hydrolase," <i>J. Biol. Chem.</i> 1985 Sep 15;260(20):10966-70
	A11	Ford-Hutchinson, A.W. et al. "Leukotriene B ₄ , a potent chemokinetic and aggregating substance released from polymorphonuclear leukocytes," <i>Nature</i> 1980 July 17;286:264-65
	A12	Funk, C.D. et al. "Molecular cloning and amino acid sequence of leukotriene A ₄ hydrolase," <i>Proc. Natl. Acad. Sci. USA</i> 1987 Oct;84(19):6677-81
↓	A13	Griffiths, R.J. et al. "Leukotriene B ₄ plays a critical role in the progression of collagen-induced arthritis," <i>Proc. Natl. Acad. Sci. USA</i> 1995 Jan 17;92(2):517-21
MAT	A14	Griffiths, R.J. et al. "Collagen-induced arthritis is reduced in 5-lipoxygenase-activating protein-deficient mice," <i>J. Exp. Med.</i> 1997 Mar 17;185(6):1123-9
Examiner	/Miguel A. Talavera/	Date Considered 06/05/2006
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MAT	B1	Haeggström, J.Z. et al. "Leukotriene A ₄ hydrolase: structural and functional properties of the active center," <i>J. Lipid Mediat.</i> 1993 Mar-Apr;6(1-3):1-13
	B2	Hogg, J.H. et al. "Probing the activities and mechanisms of leukotriene A ₄ hydrolase with synthetic inhibitors," <i>Chem. Eur. J.</i> 1998;4(9):1698-1713
	B3	Kuchner, O. et al. "Directed evolution of enzyme catalysts," <i>Trends Biotechnol.</i> 1997 Dec;15(12):523-30
	B4	Labaudinière, R. et al. "ω-[(ω-Arylalkyl)thienyl]alkanoic acids: from specific LT A ₄ hydrolase inhibitors to LTB ₄ receptor antagonists," <i>J. Med. Chem.</i> 1992 Aug 21;35(17):3170-9
	B5	Lewis, R.A. et al. "Leukotrienes and other products of the 5-lipoxygenase pathway. Biochemistry and relation to pathobiology in human diseases," <i>N. Engl. J. Med.</i> 1990 Sep 6;323(10):645-55
	B6	Lorsch, J.R. et al. "In vitro evolution of new ribozymes with polynucleotide kinase activity," <i>Nature</i> 1994 Sep 1;371(6492):31-6
	B7	Medina, J.F. et al. "Leukotriene A ₄ hydrolase: determination of the three zinc-binding ligands by site-directed mutagenesis and zinc analysis," <i>Proc. Natl. Acad. Sci. USA</i> 1991 Sep 1;88(17):7620-4
	B8	Ménard, A. et al. "The cytotoxic activity of <i>Bacillus anthracis</i> lethal factor is inhibited by leukotriene A ₄ hydrolase and metallopeptidase inhibitors," <i>Biochem. J.</i> 1996 Dec 1;320 (Pt 2):687-91
	B9	Mueller, M.J. et al. "Leukotriene A ₄ hydrolase: mapping of a heicosapeptide involved in mechanism-based inactivation," <i>Proc. Natl. Acad. Sci. USA</i> 1995 Aug 29;92(18):8383-7
	B10	Mueller, M.J. et al. "Leukotriene A ₄ hydrolase: protection from mechanism-based inactivation by mutation of tyrosine-378," <i>Proc. Natl. Acad. Sci. USA</i> 1996 Jun 11;93(12):5931-5
	B11	Mueller, M.J. et al. "Leukotriene A ₄ hydrolase, mutation of tyrosine 378 allows conversion of leukotriene A ₄ into an isomer of leukotriene B ₄ ," <i>J. Biol. Chem.</i> 1996 Oct 4;271(40):24345-8
	B12	Nord, K. et al. "Binding proteins selected from combinatorial libraries of an alpha-helical bacterial receptor domain," <i>Nat. Biotechnol.</i> 1997 Aug;15(8):772-7
	B13	Orning, L. et al. "Inhibition of leukotriene A ₄ hydrolase/aminopeptidase by captopril," <i>J. Biol. Chem.</i> 1991 Sep 5;266(25):16507-11
MAT	B14	Orning, L. et al. "The bifunctional enzyme leukotriene- A ₄ hydrolase is an arginine aminopeptidase of high efficiency and specificity," <i>J. Biol. Chem.</i> 1994 Apr 15;269(15):11269-73

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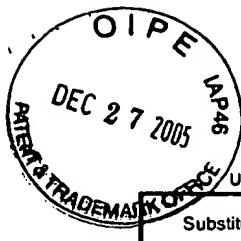
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MAT	C1	Owman, C. et al. "The leukotriene B ₄ receptor functions as a novel type of coreceptor mediating entry of primary HIV-1 isolates into CD4-positive cells," <i>PNAS. USA</i> 1998 Aug 4;95(16):9530-4
	C2	Rola-Pleszczynski, M. et al. "Leukotrienes augment interleukin 1 production by human monocytes," <i>J. Immunol.</i> 1985 Dec;135(6):3958-61
	C3	Samuelsson, B. "Leukotrienes: mediators of immediate hypersensitivity reactions and inflammation," <i>Science</i> 1983 May 6;220(4597):568-75
	C4	Samuelsson, B. et al. "Leukotrienes and lipoxins: structures, biosynthesis, and biological effects," <i>Science</i> 1987 Sep 4;237(4819):1171-6
	C5	Serhan, C.H. et al. "Lipid mediator networks in cell signaling: update and impact of cytokines," <i>FASEB J.</i> 1996 Aug;10:1-12
	C6	Tsuge, H. et al. "Crystallization and preliminary X-ray crystallographic studies of recombinant human leukotriene A ₄ hydrolase complexed with bestatin," <i>J. Mol. Biol.</i> 1994 May 20;238(5):854-6
	C7	Vallee, B.L. et al. "Active-site zinc ligands and activated H ₂ O of zinc enzymes," <i>Proc. Natl. Acad. Sci. USA</i> 1990 Jan;87(1):220-4
	C8	Wetterholm, A. et al. "Recombinant mouse leukotriene A ₄ hydrolase: a zinc metalloenzyme with dual enzymatic activities," <i>Biochim. Biophys. Acta</i> 1991 Oct 25;1080(2):96-102
	C9	Wetterholm, A. et al. "Leukotriene A ₄ hydrolase: abrogation of the peptidase activity by mutation of glutamic acid-296," <i>Proc. Natl. Acad. Sci. USA</i> 1992 Oct 1;89(19):9141-5
	C10	Wetterholm, A. et al. "Potent and selective inhibitors of leukotriene A ₄ hydrolase: effects on purified enzyme and human polymorphonuclear leukocytes," <i>J. Pharmacol. Exp. Ther.</i> 1995 Oct;275(1):31-7
	C11	Yamaoka, K.A. et al. "Leukotriene B ₄ enhances activation, proliferation, and differentiation of human B lymphocytes," <i>J. Immunol.</i> 1989 Sep 15;143(6):1996-2000
	C12	Yokomizo, T. et al. "A G-protein-coupled receptor for leukotriene B ₄ that mediates chemotaxis," <i>Nature</i> 1997 Jun 5;387(6633):620-4
	C13	Yokomizo, T. et al. "A second leukotriene B ₄ receptor, BLT2. A new therapeutic target in inflammation and immunological disorders," <i>J. Exp. Med.</i> 2000 Aug 7;192(3):421-32
✓	C14	Yuan, W. et al. "Novel tight-binding inhibitors of leukotriene A ₄ hydrolase," <i>J. Am. Chem. Soc.</i> 1992 April;114:6552-53
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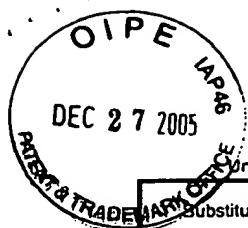
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SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	09/914451-Conf. #4167
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Sheet	1	of	2	First Named Inventor	Jesper Z. HAEGGSTROM
				Art Unit	1656
				Examiner Name	L. T. Odell
				Attorney Docket Number	PVZ-006US

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MAT	C1	Wetterholm, Anders, et al., "Leukotriene A ₄ hydrolase: Abrogation of the peptidase activity by mutation of glutamic acid-296," <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 89:9141-9145 (1992)			T ²
	C2	Minami, Michiko, et al., "Leukotriene A ₄ hydrolase, a bifunctional enzyme. Distinction of leukotriene A ₄ hydrolase and aminopeptidase activities by site-directed mutagenesis at Glu-297," <i>FEBS</i> , Vol. 309(3):353-357 (1992)			
	C3	Medina, Juan F., et al., "Leukotriene A ₄ hydrolase: Determination of the three zinc-binding ligands by site-directed mutagenesis and zinc analysis," <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 88:7620-7624 (1991)			
	C4	Toh, Hiroyuki, et al., "Molecular Evolution and Zinc Ion Binding Motif of Leukotriene A ₄ Hydrolase," <i>Biochemical and Biophysical Research Communications</i> , Vol. 171(1):216-221 (1990)			
	C5	Haeggstrom, Jesper Z., et al., "Leukotriene A ₄ Hydrolase: A Zinc Metalloenzyme," <i>Biochemical and Biophysical Research Communications</i> , Vol. 172(3):965-970 (1990)			
	C6	Funk, Colin D., et al., "Molecular cloning and amino acid sequence of leukotriene A ₄ hydrolase," <i>Proc. Natl. Acad. Sci. USA</i> , Vol. 84:6677-6681 (1987)			
	C7	Thunnissen, Marjolein M.G.M., et al., "Crystal structure of human leukotriene A ₄ hydrolase, a bifunctional enzyme in inflammation," <i>Nature Structural Biology</i> , Vol. 8(2):131-135 (2001)			
	C8	Rudberg, Peter C., et al., "Leukotriene A ₄ Hydrolase/Aminopeptidase," <i>The Journal of Biological Chemistry</i> , Vol. 277(2):1398-1404 (2002)			
	C9	Mammalian Gene Collection (MGC) Program Team, "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences," <i>PNAS</i> , Vol. 99(26):16899-16903 (2002)			
	C10	Odlander, Bjorn, et al., "Leukotriene A ₄ Hydrolase in the Human B-Lymphocytic Cell Line Raji: Indications of Catalytically Divergent Forms of the Enzyme," <i>Archives of Biochemistry and Biophysics</i> , Vol. 287(1):167-174 (1991)			
MAT	C11	Minami, Michiko, et al., "Molecular Cloning of a cDNA Coding for Human Leukotriene A ₄ Hydrolase," <i>The Journal of Biological Chemistry</i> , Vol. 262(29):13873-13876 (1987)			
Examiner Signature	/Miguel A. Talavera/			Date Considered	06/05/2006



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MAT	C12	Radmark, Olof, et al., "Leukotriene A ₄ Hydrolase in Human Leukocytes," <i>The Journal of Biological Chemistry</i> , Vol. 259(20):12339-12345 (1984)	
MAT	C13	Mancini, Joseph A., et al., "Cloning and characterization of the human leukotriene A ₄ hydrolase gene," <i>Eur. J. Biochem.</i> , Vol. 231:65-71 (1995)	
MAT	C14	Jendraschak, Ellen, et al., "The human leukotriene A ₄ hydrolase gene is expressed in two alternatively spliced mRNA forms," <i>Biochem J.</i> , Vol. 314:733-737 (1996)	
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